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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,400	01/03/2001	Michael Mesh	S0489/7008 GSE	1928

23338 7590 07/12/2005

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EXAMINER	
ELALLAM, AHMED	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No.	Applicant(s)	
	09/753,400	MESH ET AL.	
	Examiner	Art Unit	
	AHMED ELALLAM	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Responsive to Amendment filed on 2/18/2005. The Amendment has been entered.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: adding a header and checksum (or FSC...) after the segmentation of the bit stream.

More specifically, claim 1 recite: "segmenting an incoming bit stream; adding a tag to a header of each segment..". From the claim recitation, it is not clear from where the header comes in place within the segment. Such lack of step(s) amounts to claim 1 being unclear and confusing.

Claims 2-11depends from rejected claim 1, thus they are subject to the same rejection.

It is noted that the specification also is incomplete of disclosing the omitted step(s) between segmenting the bit stream and the header within segments.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 3, 4, 7, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ravikanth, US (6,331,978).

Regarding claims 1 and 8, Ravikanth discloses a method for data transmission over an optical fiber, the method comprising:

adding a label to the front of a datagram, see column 3, lines 30-35. (Claimed adding a tag to a header of each segment, each tag including data identifying a route between a source and destination). (Examiner interpreted the label as the claimed tag, and the datagram as the segment, and the end of datagram as the claimed header of segment). (Examiner also interpreted the presence of datagram is preceded by a form of segmentation of a bit stream of data of at least one service);

Ravikanth also discloses that packet over SONET/SDH uses PPP encapsulation, see column 5, lines 14-17, (Examiner interpreted the packet as been the

datagram with the label (claimed segment with the tag)), see column 5, lines 34-38. (Claimed encapsulating tagged segment into a point-point protocol (PPP) packet in a frame); Ravikanth further discloses that SONET is used for data transmission over optical fiber, see column 1, lines 19-22. (Claimed mapping the encapsulated packet into a transmission frame for transmission over an optical fiber).

Regarding claims 3 and 4, Ravikanth discloses using packet over SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a Packet over SONET frame as in claim3; and the transmission frame is a Packet over SDH frame , as in claim 4).

Regarding claim 7, Ravikanth discloses scrambling the payload of the packet, see column 5, lines 39-48. (Claimed scrambling the encapsulated packet before the step of mapping into a transmission frame).

Regarding claim 9, claim 9 is rejected by way of symmetry since it has all the reverse steps of base claim 1.

Regarding claim 10, claim 10 has the step of de-scrambling, since the payload was scrambled (as indicated in claim 7), the reverse step of de-scrambling is necessary to recreate the original datagram.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 2, 5, 6, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravikanth US (6,331,978) in view of Ndousse et al, PPP Extensions for IP/PPP-HDLC over SONET-SDH/WDM, IEEE, 1999, pages 575-580.

Regarding claims 2 and 13, Ravikanth as indicated above discloses encapsulating the labeled datagram using a PPP protocol framing.

Ravikanth fails short of specifying that the PPP is a High bit rate Digital Link Control (HDLC). (Claimed tagged segment is encapsulated into PPP packet in a high bit rate Digital Link Control (HDLC)-like frame).

However, Ndousse discloses that encapsulating datagram into a PPP-HDLC frames is a preferred encapsulation mechanism. See left column, page 576, and first paragraph.

Therefore, it would have been obvious to an ordinary person of skill in the art, to use the PPP-HDLC encapsulation taught by Ndousse instead of the PPP of Ravikanth so that Ravikanth's system can be used for 802.3 LAN traffic (Ndousse). The advantage would be the ability to apply Ravikanth's encapsulation to Ethernet traffic for transport over fiber optics using SONET/SDH standards (Ndousse).

Regarding claims 5 and 6, Ravikanth discloses using packet over SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a Packet over SONET frame as in claim 5; and the transmission frame is a Packet over SDH frame , as in claim 6).

Regarding claim 11, as discussed above with reference to dependent claims 2 and 5, Ravikanth in view Ndousse discloses encapsulating a labeled datagram in a PPP-(HDLC)-like using packet over SONET frames. However, Ravikanth in view

Ndousse do not explicitly discloses the steps of de-packing, de-capsulating, stripping and assembling the datagram (segment). However Ravikanth in view Ndousse would naturally recognize the need to do these steps since they are inherently the reverse steps implemented on the datagram. Such steps are needed to recover the original data stream.

4. Claim 12, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravikanth, US (6,331,978).

Regarding claim 12, claim 12 is an apparatus claim having an engine comprising modules that implement the steps of claim 1. Ravikanth while disclosing the functions of the modules of claim 12, it does not specify the implementation modules. However, it would have been obvious to a person of ordinary skill in the art to provide the modules necessary to implement the method steps of Ravikanth. A person of skill in the art would be motivated so that the method of Ravikanth can be put to practice.

Regarding claims 14 and 15, Ravikanth discloses using packet over SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a Packet over SONET/SDH frame.

Regarding claim 16, Ravikanth disclose adding a label to the front of a datagram, wherein the label is MPLS label. See column 3, lines 30-35. (Claimed add MPLS tag to a header of each segment).

Response to Arguments

5. Applicant's arguments filed 2/18/2005 have been fully considered but they are not persuasive:

Applicant did not amend claim 1 by deleting the reference to the header as indicated in the Remarks, page 5. Therefore the 112 2nd rejection of claims 1-11 is maintained.

Applicants argue that "*None of the prior art known to Applicants or cited in the Office Action disclose the critical initial step of the claimed invention of segmenting an incoming stream data of one or more services. This step permits the data received in a variety of different protocols from a variety of different services be combined into packets without regard to their original protocols. The segmented data is tagged and encapsulated into a packet which acts like a conventional PPP packet which be mapped onto a conventional transmission frame, such Packet over SONET frame. This not possible with the prior art methods, and the invention thus provides a novel method for creating packets, particularly multi-service packets*". (Emphasis added). Applicants added that "*the patent to Ravikanth utilizes datagrams which are pre-formed packets, and relates only to single service packets (packet-based services)*". Examiner respectfully disagrees. Applicants disclose on page 6, lines 8-25:

> Referring now to FIGS. 1a, 1b and 1c there are shown schematically the steps in the method of packet processing for transmission, according to one embodiment of the present invention. First of all, all incoming traffic, received on a service port, is segmented. This means that the incoming bit stream is segmented into variable-length segments. The segments can be of predetermined fixed length for a particular kind of service or traffic, such as constant bit rate services, while the length of the

segments for each service differs from one another. Alternatively, for other services, such as Ethernet, the segments can have variable length within the particular service, for example, the length of an Ethernet frame.

In FIG. 1a, there is shown, by way of non-limiting example only, an IEEE 802.3 Ethernet frame 10, which has been received for transmission. Ethernet frame 10 is a segment of a bit stream from a data source for transmission over the communication system. Ethernet frame 10 includes a destination address 12 within the Ethernet network, a source address 14 within the Ethernet network, information 16 representing the length of the frame, data 18 to be transmitted in the frame, and a frame correction signal (FCS) 19 to indicate the end of the segment. In most cases, Ethernet frame 10 will be only one of a plurality of frames, which, together, make up the entire data transmission.

It is clear from the above that claimed **bit stream** can be (non-limiting example) of **received Ethernet frames, which** are received as a segment with the identifying information (source, destination, FCS ... etc). Therefore, the segmentation of the "bit stream" is identical to the received packets of *Ravikanth,* and it is also clear that the disclosed "all incoming traffic, received on a service port is segmented" is being having a format determined in advance (such as the disclosed Ethernet frames); more importantly, it would have being impossible to recognize which service the bit streams belong to, unless there is an already established format, so the segmentation can take place in accordance with the type of the data service received (disclosed variable length segment). Examiner notes that the claimed segmenting of received bit stream is in fact equivalent to recognizing the different received services prior to the tagging and encapsulating steps. Therefore, Applicants argument when taken in light of the specification is traversed in view of Ravikanth's teaching, since bit streams are pre-

formed prior to the tagging and encapsulating in the same manner of the datagram of Ravikanth.

Applicants further argue that Ravikanth utilizes datagrams that relates to single service packets, and that there is no teaching or suggestion of segmenting a data stream of data of more than one service. Examiner respectfully disagrees, Ravikanth teaches the encapsulation of datagram of different length (figure 3) along the MPLS labeling, the Multiple protocol label switching with the different length packet is clearly for having different data services and not one single service as Applicants contend. In addition, the fact that Ravikanth doesn't look at inside the payload inherently provides for different services regardless of the payload protocol type, also it is within the established MPLS standard to provide multiple services using the MPLS labels in transmitting PPP traffic over fiber optics regardless of the type of the service provided, and that is the reason Ravikanth doesn't look inside the packet loads.

Applicant's argument that Ndousse article doesn't disclose segmenting of data streams of a variety of services data for combining into packets regardless of the original protocol. Examiner notes that Ravikanth does teach the segmentation of bit streams of data as indicated above, and that Ndousse does not need to teach what is already taught by Ravikanth, Ndousse was used to complement Ravikanth of not explicitly teaching encapsulating datagram into a PPP-HDLC frames, however Ndousse provide such feature and a prima facie case of obviousness is believed to be properly established as indicated above.

Finally, Applicants argue that providing an engine module to carry out the method would not include the crucial segmentation module for segmenting the incoming bit stream of data of at least one service. Examiner respectfully disagrees, because Ravikanth as discussed above provides for the segmentation of received bit streams of at least one service, and that person of ordinary skill in the art would provide the modules necessary to implement the method steps of Ravikanth. A person of skill in the art would be motivated so that the method of Ravikanth can be put to practice.

Examiner notes that the added limitation to claims 1 and 12 of "data of at least one service" does not carry the meaning of the discussed "multi-service data" because it can be interpreted as "a single service data", therefore, assuming that even if Ravikanth does not teach multi-service data, it can still read on the amended claims.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM
Examiner
Art Unit 2662
July 8, 2005

JOHN PEZZLO
PRIMARY EXAMINER